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MEMORANDUM

To: Mr. Aaron Bock, County of Tulare

From: David McGlasson, PE, PLS

Subject: Community of Traver
30-Year Water Supply and Quality Impacts

Date: September 16, 2014

The 1989 Traver Community plan forecasted populations a Year 2000 population of 862 and a population of 1,148 for its build-out year of 2010. The U.S. Census for those years reported populations of 732 and 713 respectively, actually contracting and falling well short of the 2.9% growth rate projected in 1989.

Based upon this recent history, using the 2010 General Plan Background Report growth rate of 1.3% to project to 2030 is conservative. Using this growth rate, Traver could reach 923 persons in Year 2030, an increase of 210 (29.5%) from 2010.

Since the water system currently has 180 connections (one per household), a population of 713 leads to a household formation rate of 3.96. Projecting that rate to the future population of 923, 53 additional household connections will be added to the water distribution system, bringing the total to 233 connections.

Recent water usage records are available between Years 2007 and 2013 as shown below:

Recorded Water Usage	
Calendar Year	Traver Water Usage (Millions of Gallons)
2007	61.43
2008	58.96
2009	59.03
2010	26.58
2011	28.20
2012	38.85
2013	62.30

If 180 connections use the average annual quantity of water consumed during Years 2007-2009, and 2013, then approximately 60.43 mg/y are used; or about 335,777 gallons per year per connection, or just less than 1.0 AF/year, which is very moderate usage in the Central Valley. Projecting this usage to the future 233 connection results in

a projected annual water demand of $(233 \times 335,777 = 78,263,174)$ gallons) in 2030. Between 2013 and 2030, water consumption is projected to increase by 17.83 mg/y, the same 29.5% as the projected population increase.

With regard to the subject water system, the capacity of the existing water supply wells will be exceeded over the course of the planning horizon, and additional wells, pumps, and a storage tank will be needed to meet those increased demands. That is not an environmental impact, but rather a capital improvement issue.

However, that growth would require increased pumping in an impacted groundwater basin, and the recent CID v. City of Selma case determined that such pumping is, on its face, a significant and unavoidable impact.

The following are feasible mitigation measures that could allow the impact to be reduced to less than significance. Each of these is currently in use in one or more California communities:

1. Install water meters and adopt a use-weighted rate schedule to encourage reduced usage by the rate-payers.
2. Retrofit homes with water-efficient faucets, showers and toilets.
3. Limit permissible landscape area for each residence to 2,500 square feet or less.
4. Adopt limited outdoor watering days and hours (now in force statewide, as of August 1, by order of the Department of Water Resources).
5. Mandate use of native and drought-tolerant species for all landscaping.
6. Acquire a new surface water supply that could be shown to benefit the basin and offset the pumping that comes with growth.

The first five of these measures could reduce per-unit water consumption by 25-30 percent, which is good but not enough to offset 30 years of 3-percent growth. The sixth measure would have to be designed to offset the balance of the increased use.

The cost of water acquisition varies enormously with the year-to-year reliability of the supply. In the case of a community pumping groundwater, the supply does not need to be reliable 24/7/365 in every sort of water year. It is reasonable to have a supply, used for recharge or perhaps in-lieu irrigation of neighboring crops, that is reliable on a 5- to 7-year rolling average. Under such an agreement the supplier would deliver a large quantity of water in a wet year, and little or none in a dry year like this one, but overall there would be sufficient water returned to the aquifer every 5 to 7 years to offset the municipal groundwater pumping.

If the County or the community water purveyor were to put an agreement like that in place, it would reduce groundwater impacts to less than significance.

With respect to water quality, the Consumer Confidence Report (CCR) prepared by Traver Water, LLC, for 2011, the most recent year available, reports that no contaminant was measured at a level exceeding the Maximum Contaminant Level (MCL) established by the State Water Resources Control Board, Division of Drinking Water (DDW).

Traver Water, LLC reported two instances of coliform bacteria, which are naturally occurring and not the same as E. Coli bacteria, which would indicate contamination by human waste. The CCR shows a slightly elevated (800 ppm) electroconductivity, which is not atypical for the Valley and is indicative of the presence of salts in the groundwater at levels not dangerous to human health or plant life.

The final item worthy of note is the presence of 1,2,3-trichloroPropane (TCP), which is at this time an unregulated contaminant for which the Division of Drinking Water has set a Public Health Goal of 0.0007 ppb and a Notification Level of 0.005 ppb. The CCR reports TCP concentration in the Traver wells of 0.046 ppb, well above the Notification Level and nearly 100 times the Public Health Goal.

Until such time that DDW sets an MCL for TCP, there is no requirement for any action, and no state funding for cleanup or removal will be available. DDW reports via its website that it is working on an MCL which is expected to be released for public comment in late 2014 or 2015, as part of the regulations adoption process. Once that regulation is adopted, the Traver system will be obliged to take action to remove TCP from the water. The technology to do so, activated carbon filtration, is widely available and is not prohibitively expensive to acquire or operate.

